REMARKS

Applicants have studied the Office Action dated December 21, 2006 and have made amendments to claims 1, 3-8, 10-13, 15-22. No new matter was added. Reconsideration and allowance of the pending claims in view the following remarks are respectfully requested. Applicants submit that the application is in condition for allowance. In the Office Action, the Examiner:

- Objected to claims 11 and 13 because of various informalities;
- Rejected claims 15-18 under 35 U.S.C. § 101 for being directed towards a "service";
- Rejected claims 20-22 under 35 U.S.C. § 101 for being directed towards software per se;
- Rejected claims 15-17 under 35 U.S.C. § 102(e) as being unpatentable over Naslund et al. U.S. Patent Publication No. 2005/0246282;
- Rejected claims 1-2, 4-9, 18, and 20-22 under 35 U.S.C. § 103(a) as being unpatentable over Naslund et al. U.S. Pre-grant Publication No. 2005/0246282 in view of Bhat U.S. Pre-grant Publication No. 2003/0055809;
- Rejected claim 3 under 35 U.S.C. § 103(a) as being unpatentable over Naslund et al. U.S. Pre-grant Publication No. 2005/0246282 in view of Bhat U.S. Pre-grant Publication No. 2003/0055809 and in further view of Dankick U.S. Patent No. 5828864; and
- Rejected claims 10-14, 19, and 22 under 35 U.S.C. § 103(a) as being unpatentable over Naslund et al. U.S. Pre-grant Publication No. 2005/0246282 in view of Bhat U.S. Pre-grant Publication No. 2003/0055809 and in further view of Dankick U.S. Patent No. 5828864.

Claim Objections

As noted above, the Examiner objected to claims 11 and 13 because of various informalities. The Applicants have carefully amended claim 11 to more clearly recite "a user input". The Applicants have also amended claim 13 to more clearly recite "logging the software operation activity" as compared to "logging an even". Therefore, the Applicants respectfully suggest that the objections to claims 11 and 13 have been overcome and should be withdrawn.

Rejection under 35 U.S.C. § 101

As noted above, the Examiner rejected claims 15-19 and 20-22 under 35 U.S.C. § 101. With respect to claims 15-19, the Applicants have amended claims 15-19 to more clearly recite "method" and not "service". With respect to claims 20-22, the Applicants have amended claims 20-22 to recite "a computer program product for analyzing software running in a tamper-resistant environment, the computer program product comprising instructions for…" Therefore, the Applicants believe that the rejection under 35 U.S.C. § 101 has been overcome and should be withdrawn.

Rejection under 35 U.S.C. § 102(e)

As noted above, the Examiner rejected claims 15-17 under 35 U.S.C. § 102(e) as being unpatentable over Naslund et al. U.S. Patent Publication No. 2005/0246282. Independent claim 15 has been amended to more clearly recite the present invention.

In particular, the presently claimed invention now more clearly recites:

A method of analyzing the operation of software in a remote protected processing environment, the method including:

receiving from the remote protected processing environment an encrypted log file of substantially-constant size comprising at least one log entry with at least one set of data derived from at least one instance of software

execution monitored in response to a user identifying and selecting the one instance of software execution, whereby the set of data is used to diagnose the software execution;

determining a decrypting key for the encrypted log file and decrypting the encrypted log file;

analyzing the log entry at the remote protected processing environment to determine whether an operation corresponding to the set of data derived from the at least one instance of software execution of the remote protected processing environment is appropriate; and

reporting results of the analyzing step.

With respect to claim 15, the Examiner states that Naslund, at paragraph [0081] teaches "the security operation unit then comprises a public key. The encrypted usage information can then only be ready (Sic) by the trusted party using its private key for decryption of the cryptographically protected information". The Examiner uses this teaching of Naslund in support of the rejection of claim 15.

However, "determining a decrypting key for the encrypted log file and decrypting the encrypted log file" is only one element out of many in claim 15 and a proper rejection under 35 U.S.C. § 102(e) requires that a single reference teach (i.e., identically describe) each and every element of the rejected claims as being anticipated by Naslund.[1] Therefore, the Examiner has failed to prove that Naslund teaches each and every element of claim 15.

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[1] See MPEP §2131 (Emphasis Added) "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of Californi*a, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim."

Furthermore, Naslund is directed towards monitoring usage of digital content by a user. The motivation behind Naslund is to record the usage of digital content by a user so that usage disputes do not arise. For example, Naslund is trying to prevent the situation where a user states that he/she only played a song three times when in fact he/she played a song five times. See Naslund at paragraphs [0002] to [0006], [0026] to [0032]. A logging agent monitors the use of the content such as playing a song. The generated usage information is authenticated and stored as a log entry in a log. The usage information can also be encrypted.

The present invention on the other had, now more clearly recites "receiving from the remote protected processing environment an encrypted log file of substantially-constant size comprising at least one log entry with at least one set of data derived from at least one instance of software execution monitored in response to a user identifying and selecting the one instance of software execution, whereby the set of data is used to diagnose the software execution; determining a decrypting key for the encrypted log file and decrypting the encrypted log file; analyzing the log entry at the remote protected processing environment to determine whether an operation corresponding to the set of data derived from the at least one instance of software execution of the remote protected processing environment is appropriate; and reporting results of the analyzing step.

In other words, the present invention is directed towards the diagnosis or analysis of software execution within a data processing system that includes a protected operating environment. Nowhere does Naslund teach or suggest "receiving from the remote protected processing environment an encrypted log file of substantially-constant size comprising at least one log entry with at least one set of data derived from at least one instance of software execution monitored in response to a user identifying and selecting the one instance of software execution, whereby the set of data is used to diagnose the software execution". Naslund is completely silent on an encrypted log file being substantially constant size. The constant fixed size of the log file prevents the log file

from being monitored by malicious programs or users. For example, the fixed size reduces the chance that its role as a trace log will be apparent from a monitoring of the log and that the events being monitored will be apparent to an attacker. This makes the log file and the system as a whole harder to attack. Nowhere does Naslund teach this claim element.

Furthermore, Naslund teaches only monitoring usage information of content that can include content quality parameters. In other words, Naslund only teaches monitoring how a user uses the content and the content's quality. This usage information is then stored within a log file. The presently claimed invention, on the other hand teaches that the encrypted log file comprises "at least one set of data derived from at least one instance of software execution monitored… whereby the set of data is used to diagnose the software execution". This is completely different than Naslund's teaching of usage information. For example, the presently claimed invention monitors how the software is executing for debugging and analysis purposes, while Naslund monitors how a user uses content for license/policy enforcement.

Additionally, the presently claimed invention recites "…at least one set of data derived from at least one instance of software execution monitored in response to a user identifying and selecting the one instance of software execution…". In other words, a user initiates the monitoring/logging and selects what is to be monitored/logged. Also, the monitoring is can only be for one instance of software execution and does not have to be for every instance. Naslund, on the other hand, is completely silent on this claim element. For example, Naslund teaches that whenever a user uses the content usage information is generated. If a user plays a song 5 times, Naslund teaches that usage information for each of the 5 times is recorded. Assuming arguendo that Naslund and the presently claimed invention teaches logging and monitoring the same type of data (which they do not), Naslund would have to teach that of the 5 times a song is played a user can select which of the 5 times data should be logged. Naslund clearly does not teach this. In fact, this is completely against what Naslund is trying to accomplish. For

example, Naslund logging usage information to maintain a reliable record of whether or not a user is complying with a DRM policy. If a user is able to select when logging should occur in Naslund, a user could circumvent DRM policies associated with the content. For example, if a user is only allowed to play a song 3 times a user could only have usage information recorded for two times. This completely defeats the purpose of Naslund.

Further yet, nowhere does Naslund teach "analyzing the log entry at the remote protected processing environment to determine whether an operation corresponding to the set of data derived from the at least one instance of software execution of the remote protected processing environment is appropriate". Naslund is completely silent on this element.

With respect to claim 16, which depends from claim 15, the Examiner states that the "logging agent (Fig. 2, 150) inherently requires an initializing mechanism to determine when the logging is to begin…" However, nowhere does Naslund teach "providing an instruction to initiate a logging of messages each time logging is desired by the user.

For the foregoing reasons, Claim 15 distinguishes over Naslund. Claims 16-17 depend from claim 15. Since dependent claims include all the limitations of the independent claims, claims 16-17 distinguish over Naslund, as well. Accordingly, Applicants believe that the rejection under 35 U.S.C. § 102(e) has been overcome and respectfully request that this rejection be withdrawn.

Rejection under 35 U.S.C. § 103

As noted above, the Examiner rejected claims 1-2, 4-9, 18, and 20-22 under 35 U.S.C. § 103(a) as being unpatentable over Naslund et al. U.S. Pre-grant Publication No. 2005/0246282 in view of Bhat U.S. Pre-grant Publication No. 2003/0055809. With

respect to claim 1, the Examiner states that Naslund does not teach "random data in the log file when it is originally created and which is replaced by log entries so that the size of the log containing log entries appears to be a substantially-constant size; and a pointer which identified the next storage location for the next log entry so that the last log entry can be determined and the next log entry can be positioned in a location in the log after the previous log entry".

However, the Examiner goes on to combine Naslund with Bhat stating that teaches "creating the new log record may include…using a …pseudorandom process that creates a unique signature" Paragraph [0077]. The Examiner also states that Bhat teaches "all log records are placed in the same log file until it has reached maximum capacity". Paragraph [0076]. "The Examiner interprets maximum capacity as the substantially constant size".

With respect to claim 1, the presently claimed invention now more clearly recites:

> a processor which monitors at least one instance of software execution identified and selected by a user to be monitored and creates a log entry with ~~for~~ at least one set of data derived from the one instance of software execution, whereby the set of data is used to diagnosis the software execution;
>
> an encryption system which encrypts the log entry for the at least one set of data;
>
> a log file of a relatively-fixed size which stores the log entry for the at least one set of data which have been encrypted;
>
> random data in the log file when it is originally created and which is replaced by log entries so that a size of the log file including log entries appears to be a substantially-constant size; and
>
> a pointer which identifies a next storage location for a next log entry so that a last log entry can be determined and the next log entry can be positioned in a location in the log file after a previous log entry.

The arguments made above with respect to claim 15 are also applicable here and will not be repeated. Additionally, nowhere does Bhat teach or suggest "random data in the log file when it is originally created and which is replaced by log entries so that a size of

the log file including log entries appears to be a substantially-constant size". At paragraph [0077] Bhat teaches

> Once the appropriate log file header information is obtained, logging service 141 may create a new log record associated with the request (Step 540). Creating the new log record may include generating a unique hashcode for the new log record. The hashcode may be generated using a number of techniques including, but not limited to, a pseudorandom process that creates a unique signature based on data located in log record. Also, the type of severity and category value to be placed in severity and category fields 422 and 424, respectively, may be determined

At paragraph [0076] Bhat teaches

> Once the request is received, logging service 141, through API 147, determines the appropriate log file where the new log record is to be located (Step 520). The log file may be designated by client 110 in the request, or alternatively, logging service 141 may be configured to analyze the request to determine the appropriate log file. For example, a request associated with an error event may direct logging service 141 to place a log record in a log file dedicated to error log records. In one configuration consistent with certain principles related to the present invention, all log records are placed in the same log file until it has reached maximum capacity, where another log file is used to continue storing new log records. After the appropriate log file is determined, (i.e., log file 145), logging service 141 may access log file header 310 to determine the record marker 315 that needs to be used for record marker 410 associated with the new log record to be created (Step 530). Additionally, logging service 141 may also access last record offset 312 to obtain the pointer to the end of log file 145 in order to allow the new log record to be directly placed at the end of the last log record in log file 145. For example, referring to FIG. 3, a new log record that is created may be placed in a location in log file 145 that is immediately following log record 320-12 by using last record offset 312.

Neither here nor anywhere else in Bhat does Bhat teach "random data in the log file when it is originally created and which is replaced by log entries so that a size of the log file including log entries appears to be a substantially-constant size". The random data is placed within the log file so that the log file keeps a constant size. When a log entry is placed within the log file a corresponding amount of generated data is replaced by the log entry. The remaining random data is still in the log file until replaced. This

allows the log file to remain the same size throughout the logging process, hence claim 1 recites "random data in the log file when it is originally created and which is replaced by log entries so that a size of the log file including log entries appears to be a substantially-constant size". Bhat does not teach this. Also, the Examiner incorrectly assumes that "maximum capacity" in Bhat is the same as "substantially-constant size" of the presently claimed invention. Bhat teaches "all log records are placed in the same log file until it has reached maximum capacity". Nowhere does this recite that "random data in the log file when it is originally created and which is replaced by log entries so that a size of the log file including log entries appears to be a substantially-constant size". Bhat teaches log records are added to a log file until no more records can be added thereby requiring a new log file to be created. Nowhere does Bhat teach that random data is replaced by log entries. Furthermore, if the Examiner wants to equate Bhat's hash-code to the presently claimed random data (which it is not) then Bhat has to teach that the hash-code is replaced by the log records, which Bhat clearly does not teach.

With respect to claim 20, the remarks and arguments made above with respect to claims 15 and 1 are also applicable in support of claim 20 and will not be repeated here.

For the foregoing reasons, Claims 1 and 20 distinguish over Naslund alone and/or in combination with Bhat. Claims 2, 4-9, 18, and 21-22 depend from claims 1 and 20, respectively. Since dependent claims include all the limitations of the independent claims, claims 2, 4-9, 18, and 21-22 distinguish over Naslund alone and/or in combination with Bhat, as well. Accordingly, Applicants believe that the rejection under 35 U.S.C. § 103(a) has been overcome and respectfully request that this rejection be withdrawn.

As noted above, the Examiner rejected claim 3 under 35 U.S.C. § 103(a) as being unpatentable over Naslund et al. U.S. Pre-grant Publication No. 2005/0246282 in view

of Bhat U.S. Pre-grant Publication No. 2003/0055809 and in further view of Dankick U.S. Patent No. 5828864. Claim 3 depends from claim 1 and since dependent claims include all the limitations of the independent claims, claim 3 distinguishes over Naslund alone and/or in combination with Bhat and/or in combination with Dankick, as well

As noted above, the Examiner ejected claims 10-14, 19, and 22 under 35 U.S.C. § 103(a) as being unpatentable over Naslund et al. U.S. Pre-grant Publication No. 2005/0246282 in view of Bhat U.S. Pre-grant Publication No. 2003/0055809 and in further view of Dankick U.S. Patent No. 5828864. The above arguments made with respect to claims 1 and 15 area also applicable in support of claims 10-14, 19, and 22 and therefore will not be repeated. Claims 13-14, 19, and 22 depend from claims 10, 15, and 20, respectively. Since dependent claims include all the limitations of the independent claims, claims 13-14, 19, and 22 distinguish over Naslund alone and/or in combination with Bhat and/or in combination with Dankick, as well

For the foregoing reasons, Claim 10 and 20 distinguish over Naslund alone and/or in combination with Bhat. Claims 2, 4-9, 18, and 21-22 depend from claims 1 and 20, respectively. Since dependent claims include all the limitations of the independent claims, claims 2, 4-9, 18, and 21-22 distinguish over Naslund alone and/or in combination with Bhat, as well. Accordingly, Applicants believe that the rejection under 35 U.S.C. § 103(a) has been overcome and respectfully request that this rejection be withdrawn.

CONCLUSION

Applicants acknowledge the continuing duty of candor and good faith to disclosure of information known to be material to the examination of this application. In accordance with 37 CFR § 1.56, all such information is dutifully made of record. The foreseeable equivalents of any territory surrendered by amendment is limited to the territory taught by the information of record. No other territory afforded by the doctrine of equivalents is

knowingly surrendered and everything else is unforeseeable at the time of this amendment by the Applicants and their attorneys.

Applicants respectfully submit that all of the grounds for rejection stated in the Examiner's Office Action have been overcome and that all claims in the application are allowable. No Previously Presented matter has been added. It is believed that the application is now in condition for allowance or alternatively is in better form for consideration on appeal, which allowance is respectfully requested.

PLEASE CALL the undersigned if that would expedite the prosecution of this application.

Respectfully Submitted,

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